

SEQUENCE LISTING

<110> Abbott Laboratories
Davidson, Donald J.

<120> NOVEL ANTIANGIOGENIC PEPTIDES,
POLYNUCLEOTIDES ENCODING SAME AND METHODS FOR INHIBITING
ANGIOGENESIS

<130> 5940.US.P3

<140> 08/924,287
<141> 1997-09-05

<150> US 08/851,350
<151> 1997-05-05

<150> US 08/832,087
<151> 1997-04-03

<150> US 08/643,219
<151> 1996-05-03

<160> 40

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 791
<212> PRT
<213> Homo sapiens

<400> 1
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Val Thr Lys Lys Gln Leu Gly Ala Gly Ser Ile Glu Glu Cys Ala Ala
20 25 30
Lys Cys Glu Glu Asp Glu Glu Phe Thr Cys Arg Ala Phe Gln Tyr His
35 40 45
Ser Lys Glu Gln Gln Cys Val Ile Met Ala Glu Asn Arg Lys Ser Ser
50 55 60
Ile Ile Ile Arg Met Arg Asp Val Val Leu Phe Glu Lys Lys Val Tyr
65 70 75 80
Leu Ser Glu Cys Lys Thr Gly Asn Gly Lys Asn Tyr Arg Gly Thr Met
85 90 95
Ser Lys Thr Lys Asn Gly Ile Thr Cys Gln Lys Trp Ser Ser Thr Ser
100 105 110
Pro His Arg Pro Arg Phe Ser Pro Ala Thr His Pro Ser Glu Gly Leu
115 120 125
Glu Glu Asn Tyr Cys Arg Asn Pro Asp Asn Asp Pro Gln Gly Pro Trp
130 135 140
Cys Tyr Thr Thr Asp Pro Glu Lys Arg Tyr Asp Tyr Cys Asp Ile Leu
145 150 155 160
Glu Cys Glu Glu Glu Cys Met His Cys Ser Gly Glu Asn Tyr Asp Gly
165 170 175
Lys Ile Ser Lys Thr Met Ser Gly Leu Glu Cys Gln Ala Trp Asp Ser
180 185 190

Gln Ser Pro His Ala His Gly Tyr Ile Pro Ser Lys Phe Pro Asn Lys
 195 200 205
 Asn Leu Lys Lys Asn Tyr Cys Arg Asn Pro Asp Arg Glu Leu Arg Pro
 210 215 220
 Trp Cys Phe Thr Thr Asp Pro Asn Lys Arg Trp Glu Leu Cys Asp Ile
 225 230 235 240
 Pro Arg Cys Thr Thr Pro Pro Pro Ser Ser Gly Pro Thr Tyr Gln Cys
 245 250 255
 Leu Lys Gly Thr Gly Glu Asn Tyr Arg Gly Asn Val Ala Val Thr Val
 260 265 270
 Ser Gly His Thr Cys Gln His Trp Ser Ala Gln Thr Pro His Thr His
 275 280 285
 Asn Arg Thr Pro Glu Asn Phe Pro Cys Lys Asn Leu Asp Glu Asn Tyr
 290 295 300
 Cys Arg Asn Pro Asp Gly Lys Arg Ala Pro Trp Cys His Thr Thr Asn
 305 310 315 320
 Ser Gln Val Arg Trp Glu Tyr Cys Lys Ile Pro Ser Cys Asp Ser Ser
 325 330 335
 Pro Val Ser Thr Glu Gln Leu Ala Pro Thr Ala Pro Pro Glu Leu Thr
 340 345 350
 Pro Val Val Gln Asp Cys Tyr His Gly Asp Gly Gln Ser Tyr Arg Gly
 355 360 365
 Thr Ser Ser Thr Thr Thr Gly Lys Lys Cys Gln Ser Trp Ser Ser
 370 375 380
 Met Thr Pro His Arg His Gln Lys Thr Pro Glu Asn Tyr Pro Asn Ala
 385 390 395 400
 Gly Leu Thr Met Asn Tyr Cys Arg Asn Pro Asp Ala Asp Lys Gly Pro
 405 410 415
 Trp Cys Phe Thr Thr Asp Pro Ser Val Arg Trp Glu Tyr Cys Asn Leu
 420 425 430
 Lys Lys Cys Ser Gly Thr Glu Ala Ser Val Val Ala Pro Pro Pro Val
 435 440 445
 Val Leu Leu Pro Asp Val Glu Thr Pro Ser Glu Glu Asp Cys Met Phe
 450 455 460
 Gly Asn Gly Lys Gly Tyr Arg Gly Lys Arg Ala Thr Thr Val Thr Gly
 465 470 475 480
 Thr Pro Cys Gln Asp Trp Ala Ala Gln Glu Pro His Arg His Ser Ile
 485 490 495
 Phe Thr Pro Glu Thr Asn Pro Arg Ala Gly Leu Glu Lys Asn Tyr Cys
 500 505 510
 Arg Asn Pro Asp Gly Asp Val Gly Gly Pro Trp Cys Tyr Thr Thr Asn
 515 520 525
 Pro Arg Lys Leu Tyr Asp Tyr Cys Asp Val Pro Gln Cys Ala Ala Pro
 530 535 540
 Ser Phe Asp Cys Gly Lys Pro Gln Val Glu Pro Lys Lys Cys Pro Gly
 545 550 555 560
 Arg Val Val Gly Gly Cys Val Ala His Pro His Ser Trp Pro Trp Gln
 565 570 575
 Val Ser Leu Arg Thr Arg Phe Gly Met His Phe Cys Gly Gly Thr Leu
 580 585 590
 Ile Ser Pro Glu Trp Val Leu Thr Ala Ala His Cys Leu Glu Lys Ser
 595 600 605
 Pro Arg Pro Ser Ser Tyr Lys Val Ile Leu Gly Ala His Gln Glu Val
 610 615 620
 Asn Leu Glu Pro His Val Gln Glu Ile Glu Val Ser Arg Leu Phe Leu
 625 630 635 640
 Glu Pro Thr Arg Lys Asp Ile Ala Leu Leu Lys Leu Ser Ser Pro Ala
 645 650 655

Val Ile Thr Asp Lys Val Ile Pro Ala Cys Leu Pro Ser Pro Asn Tyr
 660 665 670
 Val Val Ala Asp Arg Thr Glu Cys Phe Ile Thr Gly Trp Gly Glu Thr
 675 680 685
 Gln Gly Thr Phe Gly Ala Gly Leu Leu Lys Glu Ala Gln Leu Pro Val
 690 695 700
 Ile Glu Asn Lys Val Cys Asn Arg Tyr Glu Phe Leu Asn Gly Arg Val
 705 710 715 720
 Gln Ser Thr Glu Leu Cys Ala Gly His Leu Ala Gly Gly Thr Asp Ser
 725 730 735
 Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Phe Glu Lys Asp Lys
 740 745 750
 Tyr Ile Leu Gln Gly Val Thr Ser Trp Gly Leu Gly Cys Ala Arg Pro
 755 760 765
 Asn Lys Pro Gly Val Tyr Val Arg Val Ser Arg Phe Val Thr Trp Ile
 770 775 780
 Glu Gly Val Met Arg Asn Asn
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<210> 2

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Amplification Primer

<400> 2

attaatggat ccttggacaa gaggctgctt ccagatgttag agact
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<210> 3

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Amplification Primer

<400> 3

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<210> 4

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Amplification Primer

<400> 4

attaatctcg aggcatgctt aggccgcaca ctgatggaca
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<210> 5

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Amplification Primer

<400> 5
attaatctcg aggcatgctt aaaatgaagg ggccgcacac t
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<210> 6
<211> 7
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic K5 Peptide

<221> VARIANT
<222> (5)...(5)
<223> Xaa = 3-I-Tyr at position 5

<400> 6
Pro Arg Lys Leu Xaa Asp Tyr
1 5

<210> 7
<211> 22
<212> DNA
<213> Artificial Sequence

<220>

<223> Forward Primer

<400> 7
gaaacttcca aaagtgcgcc ta
22

<210> 8
<211> 92
<212> DNA
<213> Artificial Sequence

<220>

<223> Reverse Primer

<400> 8
attaatgaat tcctcgagcg gtccgggatc cctcggcagc ggaaccaacg gtagtgcaga
60
taactggctg agcgaagaca gattgcaaag ta
92

<210> 9
<211> 111
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic leader sequence encodes a PHO1 secretion

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signal

<400> 9
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60
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111

<210> 10
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Amplification Primer

<400> 10
gtccaggact gctaccat
18

<210> 11
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Amplification Primer

<400> 11
ctgcttccag atgttagaga
19

<210> 12
<211> 2497
<212> DNA
<213> Homo sapiens

<400> 12
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60
ggaagtggtt ctctacttc ttttatttct gaaatcaggt caaggagagc ctctggatga
120
120
ctatgtaat acccaggggg cttcactgtt cagtgtcact aagaagcagc tgggagcagg
180
180
aagtatagaa gaatgtcag caaaatgtga ggaggacgaa gaattcacct gcagggcatt
240
240
ccaatatcac agtaaagagc aacaatgtgt gataatggct gaaaacagga agtcctccat
300
300
aatcattagg atgagagatg tagtttatt tgaaaagaaa gtgtatctc cagagtgc当地
360
360
gactggaat gaaaagaact acagagggac gatgtccaaa acaaaaaatg gcatcacctg
420
420
tcaaaaatgg agttccactt ctccccacag acctagattc tcacctgcta cacaccctc
480
480
agagggactg gaggagaact actgcaggaa tccagacaac gatccgcagg ggccctggtg
540
540
ctatactact gatccagaaa agagatatga ctactgcgcac attcttgagt gtgaagagga
600
600

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 720
 tccaaacaag aacctgaaga agaattactg tcgtaacccc gatagggagc tgcggccttg
 780
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 840
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 900
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 960
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 1020
 ccgcaatcct gacggaaaaaa gggcccccattg gtgccataca accaacagcc aagtgcggtg
 1080
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 1200
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 1260
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 1320
 ctactgcagg aatccagatg ccgataaagg cccctgggtgt tttaccacag accccagcgt
 1380
 caggtggag tactgcaacc tgaaaaatg ctcaggaaca gaagcgagtg ttgttagcacc
 1440
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 1560
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 1620
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 1680
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 1740
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 1980
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 2040
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 2100
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 2160
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 2220
 tgagaataaa gtgtgcaatc gctatgagtt tctgaatgga agagtccaaat ccaccgaact
 2280
 ctgtgctggg catttggccg gaggcactga cagttgccag ggtgacagtg gaggtccct
 2340

ggtttgcttc gagaaggaca aatacatttt acaaggagtc acttcttggg gtcttgctg
2400
tgcaccccc aataagcctg gtgtctatgt tcgtgtttca aggtttgtta cttggattga
2460
gggagtgatg agaaataatt aattggacgg gagacag
2497

<210> 13
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR Amplification Primer

<400> 13
ttattaggcc gcacactgag gga
23

<210> 14
<211> 128
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic DNA Fragment synVB1

<400> 14
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ccttaattaa ccgggagccc gcctaatgag cgggctttt tttgctcttc atagtgactg
120
agacgtcg
128

<210> 15
<211> 175
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic DNA Fragment synVB2

<400> 15
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agctgaagag ctggctcacc ttcgggtggg ctttctgcg ctttggcgcg ccaaccttaa
120
ttaaccggga gcccgcctaa tgagcgggct ttttttgct cttcacgaga cgtcg
175

<210> 16
<211> 156
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic DNA Fragment synVB3

<400> 16
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ccttcgggtg ggcctttctg cgccttggcg cgccaacctt aattaaccgg gagcccgct
120
aatgagcggg cttttttttg ctcttcacga gacgtc
156

<210> 17
<211> 172
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic DNA Fragment synVB4

<400> 17
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tgaagagctg gctcaccttc ggggtgggcct ttctgcgcct tggcgcgcca accttaatta
120
accgggagcc cgccataatga gccccctttt ttttgctctt cacgagacgt cg
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<210> 18
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic K5 Peptide

<221> VARIANT
<222> (7)...(7)
<223> Xaa = 3-I-Tyr at position 7

<400> 18
Pro Arg Lys Leu Tyr Asp Xaa
1 5

<210> 19
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA Fragment

<400> 19
catgtgaaga gc
12

<210> 20
<211> 12
<212> DNA
<213> Artificial Sequence

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<220>
<223> DNA Fragment

<400> 20
gatcgctctt ca
12

<210> 21
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward Vector Primer

<400> 21
agatctcgat cccgcgaa
18

<210> 22
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse Vector Primer

<400> 22
atccggatat agttcctc
18

<210> 23
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Cassette Primer

<400> 23
cgggcttttt tttgctcttc a
21

<210> 24
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Ubi-5p Primer

<400> 24
cagatttgcg tcaagactt
19

<210> 25
<211> 18
<212> DNA
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<213> Artificial Sequence

<220>

<223> Ubi-3p Primer

<400> 25
accacacctt agccttag
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<210> 26
<211> 19
<212> DNA
<213> Artificial Sequence

<220>

<223> pET3p-ATG Primer

<400> 26
catggatatat ctccttctt
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<210> 27
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> T7RevTerm Primer

<400> 27
tgagcaataa ctagcataaac
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<210> 28
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

<223> pET5p Primer

<400> 28
agatctcgat cccgcgaa
18

<210> 29
<211> 17
<212> DNA
<213> Artificial Sequence

<220>

<223> Strom-3p Primer

<400> 29
ttagggtctca ggggagt
17

<210> 30

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<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Strom-5p Primer

<400> 30
ttcagaacct ttccctggca
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<210> 31
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Ek-Cut-5p Primer

<400> 31
agcggcgacg acgacgacaa g
21

<210> 32
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Ek-Cut-3p Primer

<400> 32
cttgtcgtcg tcgtcgccgc t
21

<210> 33
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 33
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21

<210> 34
<211> 101
<212> PRT
<213> Homo sapiens

<400> 34
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Glu Glu Asp Cys Met Phe Gly Asn Gly Lys Gly Tyr Arg Gly Lys Arg
 20          25          30
Ala Thr Thr Val Thr Gly Thr Pro Cys Gln Asp Trp Ala Ala Gln Glu

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35	40	45
Pro His Arg His Ser Ile Phe Thr Pro Glu Thr Asn Pro Arg Ala Gly		
50	55	60
Leu Glu Lys Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Gly Gly Pro		
65	70	75
Trp Cys Tyr Thr Thr Asn Pro Arg Lys Leu Tyr Asp Tyr Cys Asp Val		80
85	90	95
Pro Gln Cys Ala Ala		
100		

<210> 35
 <211> 102
 <212> PRT
 <213> *Mus musculus*

35			
Val Glu Leu Pro Thr Val Ser Gln Glu Pro Ser Gly Pro Ser Asp Ser			
1	5	10	15
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20	25	30	
Ala Val Thr Ala Ala Gly Thr Pro Cys Gln Gly Trp Ala Ala Gln Glu			
35	40	45	
Pro His Arg His Ser Ile Phe Thr Pro Gln Thr Asn Pro Arg Ala Gly			
50	55	60	
Leu Glu Lys Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Asn Gly Pro			
65	70	75	80
Trp Cys Tyr Thr Thr Asn Pro Arg Lys Leu Tyr Asp Tyr Cys Asp Ile			
85	90	95	
Pro Leu Cys Ala Ser Ala			
100			

<210> 36
 <211> 101
 <212> PRT
 <213> *Macaca mulatta*

36			
Ala Ala Pro Pro Pro Val Ala Gln Leu Pro Asp Ala Glu Thr Pro Ser			
1	5	10	15
Glu Glu Asp Cys Met Phe Gly Asn Gly Lys Gly Tyr Arg Gly Lys Lys			
20	25	30	
Ala Thr Thr Val Thr Gly Thr Pro Cys Gln Glu Trp Ala Ala Gln Glu			
35	40	45	
Pro His Ser His Arg Ile Phe Thr Pro Glu Thr Asn Pro Arg Ala Gly			
50	55	60	
Leu Glu Lys Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Gly Gly Pro			
65	70	75	80
Trp Cys Tyr Thr Thr Asn Pro Arg Lys Leu Phe Asp Tyr Cys Asp Val			
85	90	95	
Pro Gln Cys Ala Ala			
100			

<210> 37
 <211> 97
 <212> PRT
 <213> *Bos taurus*

<400> 37

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 20 25 30
 Val Ala Gly Val Pro Cys Gln Glu Trp Ala Ala Gln Glu Pro His His
 35 40 45
 His Ser Ile Phe Thr Pro Glu Thr Asn Pro Gln Ser Gly Leu Glu Arg
 50 55 60
 Asn Tyr Cys Arg Asn Pro Asp Gly Asp Val Asn Gly Pro Trp Cys Tyr
 65 70 75 80
 Thr Met Asn Pro Arg Lys Leu Phe Asp Tyr Cys Asp Val Pro Gln Cys
 85 90 95
 Glu

<210> 38
 <211> 100
 <212> PRT
 <213> Sus scrofa

<400> 38
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 Thr Thr Val Ala Gly Val Pro Cys Gln Glu Trp Ala Ala Gln Glu Pro
 35 40 45
 His Arg His Ser Ile Phe Thr Pro Glu Thr Asn Pro Arg Ala Gly Leu
 50 55 60
 Glu Lys Asn Tyr Cys Arg Asn Pro Asp Gly Asp Asp Asn Gly Pro Trp
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 Cys Tyr Thr Thr Asn Pro Gln Lys Leu Phe Asp Tyr Cys Asp Val Pro
 85 90 95
 Gln Cys Val Thr
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<210> 39
 <211> 7
 <212> PRT
 <213> Homo sapiens

<400> 39
 Pro Glu Lys Arg Tyr Asp Tyr
 1 5

<210> 40
 <211> 31
 <212> PRT
 <213> Homo sapiens

<400> 40
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